

**REMARKS**

In a February 3, 2011 final office action, Examiner rejected claim 1 (the only independent claim) under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,061,876 (“Ambe”) in view of United States Patent Application No. 2003/0223358 (“Rigby”) and further in view of U.S. Patent No. 7,197,008 (“Shabtay”).

Applicant previously argued that claim 1 distinguishes over the Ambe, Rigby and Shabtay references because it claims “receiving a packet, wherein the packet comprises a route indicator field further comprising at least one bit that indicates a link type” and “responsive to the packet being received after a time of failure along a communication link between two of the plurality of nodes and in response to a change of state of the at least one bit that indicates the link type in the route indicator field in response to a node detecting a link failure, transmitting the packet along a second route in the system to another node in the plurality of nodes, wherein the second route differs from the first route and is identified prior to the time of failure.”

In describing these limitations involving a route indicator field, the application states in relevant part:

Figure 2 illustrates a packet format 20 according to a preferred embodiment and for use in connection with system 10 of Figure 1a. Packet format 20 includes various fields as known in the Ethernet art, and only some of which are shown by way of example. These fields include a source address field 20<sub>1</sub>, a destination address field 20<sub>2</sub>, a length field 20<sub>3</sub> and a data payload field 20<sub>4</sub>. Other fields, although not shown, may be included as also known in the art, such as



a preamble and a packet (or frame) start field. According to the preferred embodiment, however, packet format 20 includes an additional field 20<sub>5</sub>, referred to hereafter as a link type field 20<sub>5</sub>. Link type field 20<sub>5</sub> is so named because, as shown below, the state of the field indicates the type of link on to which the packet is routed, with one state in field 20<sub>5</sub> (e.g., 0) indicating a spanning tree link and another state in field 20<sub>5</sub> (e.g., 1) indicating a bypass link along system 10. In the preferred embodiment, link type field 20<sub>5</sub> is a one-bit field and it is contemplated that it could be a bit provided as an addition to existing Ethernet frames or, alternatively, it could be a bit that is already in the Ethernet frame yet where the function of that bit is changed to be consistent with the functionality described in this document as relating to link type field 20<sub>5</sub>.

*See Patent Application, p. 9. The Application further states:*

When a failure occurs in a link in system 10, that failure is detected according to known protocols. However, as an enhancement in a preferred embodiment, in response to the failure detection, a node within system 10 changes the state of link type field 20<sub>5</sub> so that each packet so changed will be routed along a bypass link, where recall by way of example that a binary value of 1 in link type field 20<sub>5</sub> causes this effect. Further, when a node within system 10 receives a packet with a binary value of 1 in its link type field 20<sub>5</sub>, the receiving node does not consult its forwarding table for purposes of further routing the received packet, but instead it consults its bypass table to determine the next route for the received packet.

*See Patent Application, p. 11. The route indicator field is further defined by Applicant as follows:*

In system 10, the route indicator field is a link type field 20<sub>5</sub>, operable to indicate that the packet is to continue along a spanning tree route or a bypass route. In system 10', the



route indicator field is a link set field  $20'_3$ , operable to indicate that the packet is to continue along a first set of links forming a first route, a second set of links forming a second route, and so forth for up to  $2^M$  sets of links corresponding to a respective number of  $2^M$  routes.

Examiner cited Shabtay as disclosing some of the language in the “responsive to the packet being received after a time of failure along a communication link between two of the plurality of nodes and in response to a change of state of the at least one bit that indicates the link type in the route indicator field in response to a node detecting a link failure, transmitting the packet along a second route in the system to another node in the plurality of nodes, wherein the second route differs from the first route” limitation.

However, the cited portion of Shabtay (column 13, lines 3-18) discloses a local protection flag bit being added to the flags field of an operation, administration and maintenance (OAM) packet to notify edge nodes of the use of local protection tunnels along a path. The network processor associated with a failed link examines the inbound packets received from each link and if an OAM packet has also been received, it is checked if the packet is to be sent over the protection tunnel. In each OAM message to be rerouted to the protection tunnel, the network processor sets the local protection bit. Hence, Shabtay involves adding a flag bit to the flag field of the OAM packet at an intermediate node rather than changing the state of an existing bit in a packet at a receiving node. In other words, Shabtay’s flag bit is not contained within the inbound packet at the node receiving/transmitting the packet but is added to a separate packet (OAM packet) at



an intermediate node and sent as a notification mechanism to indicate that local protection is in place along a certain path.

In the final office action, Examiner indicated that the present claim language does not expressly require that the changing of the state of the at least one bit indicating the link type is performed by the node receiving and transmitting the packet. In other words, the claim language does not require that the receiving/transmitting node be the same as the node detecting a link failure. Therefore, Examiner submits that the current claim language, given its broadest reasonable interpretation, permits that the receiving/transmitting node may receive a packet comprising a bit that has already changed state at an intermediate node. Accordingly, Applicant has made appropriate amendments to independent claim 1 to further distinguish over the cited prior art.

Applicant respectfully requests the Examiner withdraw the rejection and allow pending Claim 1. In addition, all claims depending from Claim 1 either directly or indirectly, including Claims 2-20, are also allowable for the reasons discussed in conjunction with Claim 1.



**CONCLUSION**

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims. If there are any matters that can be discussed by telephone to further the prosecution of this Application, Applicant invites the Examiner to contact the undersigned attorney at 512-306-8533 at the Examiner's convenience.

Respectfully submitted,

By: /Gregory S. Donahue/  
Gregory S. Donahue  
Reg. No. 47,531

Correspondence Address:  
Alcatel Lucent  
c/o Galasso & Associates, LP  
P.O. Box 26503  
Austin, Texas 78755-0503  
(512) 306-8533 telephone  
(512) 306-8559 fax